4-23-1999

White Light Holography

Erik Thoreson
Indiana University - Purdue University Fort Wayne

WHITE LIGHT HOLOGRAPHY

Erik Thoreson
(Mark Masters, Associate Professor of Physics)
Department of Physics, School of Arts and Sciences

Holography has had some attention in the recent past from people other than academia. Looking at your Visa card, you should see a form of a two-dimensional white light holographic picture. These pictures are hard to duplicate and, hence, can be used as a form of security. However, in recent years the diode laser has been demonstrated to produce holographic images. This has provided a new excitement among various groups, due to the easy access of the diode laser. Experiments that were once left to those with expensive equipment is no longer. A simple $9.99 laser pointer (650nm) can demonstrate holographic wavefront superposition. High schools, middle schools, and are students now have easy access to such a device. This talk will focus on white light or volume holography as demonstrated with the traditional HeNe laser (632.8 nm). The talk will give a brief overview of holography using this laser system and the intricacies involved in producing a holographic image on an emulsion plate. There are a number of variables that determine the resolution of the image. Some of the most important are stability and film processing.